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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,702	03/10/2000	Jiandong Huang	H16-26157	5911

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EXAMINER

NGUYEN, CHAU T

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 02/19/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

PPG

Office Action Summary	Application No.	Applicant(s)	
	09/522,702	HUANG ET AL.	
	Examiner	Art Unit	
	Chau Nguyen	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment A, filed on 12/08/2004, has been entered. Claims 1-27 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7, 10-16, and 19-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. Claims 1, 10, and 19 contain "detecting a network address of a non-fault-tolerant network node coupled to one of a primary network and a redundant network ". However, in the specification, applicant specified "a non-fault-tolerant network node that is attached to either the primary or redundant network" (Summary of the Invention on

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page 4). It is not clear to examiner that based on the specification, a non-fault-tolerant network node is attached to either the primary or redundant network, which is opposite to the claimed language which is described a non-fault-tolerant network node coupled to one of the primary network and one of a redundant network. Please verify and appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Law, Jr. et al. (Law), Patent No. 6,370,654, and further in view of Tosey et al. (Tosey), Patent No. 6,392,990.

7. As to claims 1, 10, and 19, Law discloses a method of managing communication with non-fault tolerant network nodes in a fault-tolerant computer network, comprising:

detecting a network of a non-fault-tolerant network node coupled to one of a primary network and a redundant network of a plurality of networks that form a fault-tolerant network node (Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1, col. 3, line 29 – col. 4, line 29 and Fig. 3: non-fault-tolerant network 36 connected to fault-tolerant network node 32 via a communication link 17c (primary network), and non-fault-tolerant network 38 connected to fault-tolerant network node 32 via communication link 17d (redundant network));

determining the network of the plurality of networks to which the non-fault tolerant network node is coupled (Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1);

sending data intended for a non-fault tolerant network node over the network to which the non-fault tolerant network node is coupled ((Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1);

However, Law does not disclose storing the detected network address data of the non-fault tolerant network node and storing associated network data comprising the network to which the non-fault tolerant network node is coupled therewith. In the same field of endeavor, Tosey discloses a router learns the routes by creating a routing table by searching for the network address of each network device on a network, the router then selects the routes for the data packets sent through the router by searching for the shortest path between a destination node and a source node (col. 1, line 55 – col. 2, line 18). Since Tosey teaches a method and system for implementing interface redundancy in a computer network so that communication between computing devices connected to

the network is always available, which is similar to the method and apparatus to extend the fault-tolerant abilities of a node into a network of Law, it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine the teachings of Law and Tosey to include storing the detected network address data of the non-fault tolerant network nodes and storing associated network data comprising the network on which the non-fault tolerant network node exists therewith. Tosey suggests that implementing interface redundancy in a computer network would reduce or eliminate disruptions in network connections established by computer applications or other higher layer connections.

8. As to claims 2, 11, and 20, Law and Tosey (Law-Tosey) disclose wherein the step of detecting the network address of the non-fault-tolerant network node comprises detection of network address information that the non-fault-tolerant network node sends over the one network to which it is coupled (Law, Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1; Tosey, col. 1, line 55 – col. 2, line 18).

9. As to claims 3, 12, and 21, Law-Tosey disclose wherein the step of detecting network address information that is sent comprises the step of detecting Internet Protocol Address Resolution Protocol packets (IP ARP packets) (Tosey, col. 2, lines 19-46)

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10. As to claims 4, 13, and 22, Law-Tosey disclose wherein the step of determining the network to which the non-fault-tolerant network node is coupled comprises the step of determining which network interface received the network address information sent from each non-fault-tolerant network node (Tosey, col. 1, lines 41-67 and col. 7, lines 14-34).

11. As to claims 5, 14, and 23, Law-Tosey disclose wherein the step of storing the data comprises the step of populating a non-fault-tolerant network node address table (Tosey, col. 2, lines 19-46 and col. 9, lines 24-35).

12. As to claims 6, 15, and 24, Law-Tosey disclose the step of sending data intended for the non-fault-tolerant network node over both the primary and redundant network if the network to which the non-fault-tolerant network node is coupled has not been determined (Tosey, col. 3, lines 20-34)

13. As to claims 7, 16, and 25, Law-Tosey disclose wherein determination of whether the network on which the non-fault-tolerant network node is coupled has been determined further comprises the step of:

searching an address table for the stored data (Tosey, col. 2, lines 1-18);

determining that the network on which the non-fault-tolerant network node is coupled has been determined if the address table contains an entry for the non-fault-

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tolerant network node (Law, Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1; Tosey, col. 1, lines 1-18); and

determining that the network on which the non-fault-tolerant network node is coupled has not been determined if the address table does not contain an entry for the non-fault-tolerant network node (Tosey, col. 3, lines 20-52).

14. As to claims 8, 17, and 26, Law-Tosey disclose a method of managing communication with non-fault tolerant network nodes in a fault-tolerant computer network, comprising:

transmitting data from a transmitting node to a non-fault tolerant network node over a primary network (Law, Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1; Tosey, col. 6, lines 6-24) and

transmitting data from the transmitting node to the non-fault tolerant network node over a redundant network (Law, Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1; Tosey, col. 6, lines 6-24).

15. As to claims 9, 18, and 27, Law-Tosey disclose receiving and retransmitting the data via an intermediate node when the transmitting node is unable to communicate over both the primary and redundant networks, such that if the intermediate node receives the data via the redundant network it retransmits the data on the primary network and if the intermediate node receives the data via the primary network it

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retransmits the data on the redundant network (Tosey, col. 4, line 61 – col. 5, line 3, col. 9, lines 45-64).

Response to Arguments

In the remarks, applicant argued in substance that

(A) Law fails to disclose or suggest, “detecting a network address of a non-fault tolerant network node present in one of a primary network and a redundant network of a plurality of networks that form a fault-tolerant network”.

As to point (A), in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

As discussed above, Law discloses in the Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1, col. 3, line 29 – col. 4, line 29 and Fig. 3: none-fault-tolerant network 36 connected to fault-tolerant network node 32 via a communication link 17c (primary network), and non-fault-tolerant network 38 connected to fault-tolerant network node 32 via communication link 17d (redundant network). However, Law does not disclose storing the detected network address data of the non-fault tolerant network node and

storing associated network data comprising the network to which the non-fault tolerant network node is coupled therewith. In the same field of endeavor, Tosey discloses a router learns the routes by creating a routing table by searching for the network address of each network device on a network, the router then selects the routes for the data packets sent through the router by searching for the shortest path between a destination node and a source node (col. 1, line 55 – col. 2, line 18). Since Tosey teaches a method and system for implementing interface redundancy in a computer network so that communication between computing devices connected to the network is always available, which is similar to the method and apparatus to extend the fault-tolerant abilities of a node into a network of Law, it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine the teachings of Law and Tosey to include storing the detected network address data of the non-fault tolerant network nodes and storing associated network data comprising the network on which the non-fault tolerant network node exists therewith. Tosey suggests that implementing interface redundancy in a computer network would reduce or eliminate disruptions in network connections established by computer applications or other higher layer connections.

(B) Law does not disclose, “determining the single network of the plurality of networks on which the non-fault-tolerant network node exists”.

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As to point (B), Law discloses in col. 1, line 47 – col. 2, line 14: an apparatus comprises at least one fault-tolerant computer platform, a plurality of non fault-tolerant computing platforms, and communication links connecting the fault-tolerant computing platform to the non fault. Law also discloses selecting a non-fault-tolerant network and sending a transaction to the non-fault-tolerant network (col. 2, lines 1-15).

(C) Tosey does not teach or suggest any communications with non-fault-tolerant nodes, and so does not teach or suggest “detecting a network address of a non-fault-tolerant network node” or “determining the network of the plurality of networks to which the non-fault-tolerant node is couple”.

As to point (C), in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant described in the specification that a non fault-tolerant network node is attached to either the primary or redundant network. Law discloses in the Abstract, col. 1, line 47 – col. 2, line 14 and Fig. 1, col. 3, line 29 – col. 4, line 29 and Fig. 3: non-fault-tolerant network 36 connected to fault-tolerant network node 32 via a communication link 17c (primary network), and non-fault-tolerant network 38 connected to fault-tolerant network node 32 via communication link 17d (redundant network).

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Tosey discloses in col. 4, line 32 – col. 5, line 19 that hub A 22 (non fault-tolerant network) is connected to primary network 25, and hub B 23 (non fault-tolerant network) is connected to redundant network 26. Tosey also discloses a router learns the routes by creating a routing table by searching for the network address of each network device on a network, the router then selects the routes for the data packets sent through the router by searching for the shortest path between a destination node and a source node (col. 1, line 55 – col. 2, line 18).

(D) Prior art does not disclose “transmitting data from a transmitting node to a non-fault tolerant network node over a primary network; and transmitting data from the transmitting node to the non-fault tolerant network node over a redundant network”.

As to point (D), Law discloses in col. 1, line 48 – col. 2, line 14 and col. 3, lines 29-59: the fault-tolerant extension layer 14 of the fault-tolerant computing platform 32 sends the transaction to the non fault-tolerant computing platform 36 via the communication link 17c (primary network), and the fault-tolerant extension layer 14 of the fault-tolerant computing platform 32 sends the transaction to the non fault-tolerant computing platform 38 via the communication link 17d.

16. Applicant's arguments filed 12/08/2003 have been fully considered but they are not persuasive. Please see the Detailed Action and Response to Argument above.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (703) 305-4639. The examiner can normally be reached at 8:00 am – 5:00 pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (703) 305-9792. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3230.

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Any response to this final action should be mailed to:

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Or Faxed to:

(703) 872-9306, (for **formal communications**; please mark
"EXPEDITE PROCEDURE").

Or:

(703) 746-7240 (for **informal or draft communications**, please label
"PROPOSED" or "DRAFT").

Or:

(703) 872-9306 (for **After Final Communications**).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).

Chau Nguyen
Patent Examiner
Art Unit 2176


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER